MSIAC M&S Newsletter

December 2005

The Modeling and Simulation Information Analysis Center (MSIAC) M&S Newsletter is now available as an automatic service. Simply send an email to digest-subscribe@pan.msiac.dmso.mil to be added to our mailing list. This list is for the Newsletter only and will not be used for any other purpose. Please note that it is not necessary to subscribe each month.

If you would like to submit an article to be highlighted in the *MSIAC M&S Newsletter*, please forward the article (along with its source data and URL, if available) to the MSIAC Help Desk no later than 15 workdays prior to the publication of the next Newsletter. Normally, the Newsletter is published on/about the first of each month. Potential articles as well as questions or comments on the Newsletter can be emailed to msiachelpdesk@msiac.dmso.mil.

The MSIAC also publishes the quarterly *MSIAC Journal On-line*. If you would like to see the current issue of the *MSIAC Journal On-line* visit: http://www.msiac.dmso.mil/journal. If you would like to submit an article for the Journal On-line, please email your paper or article to msiachelpdesk@msiac.dmso.mil at least 45 days prior to the next publication date.

UPCOMING EVENTS

12-16 December 2005
ITEA Modeling and Simulation Workshop
Las Cruces, NM

15-16 December 2005
NATO's Research and Technology Organisation, M&S of Civil Emergency Planning in the Context of Defence Against Terrorism
Italy

9-12 January 2006
44th AIAA Aerospace Sciences Meeting Exhibit
Reno, NV

10-12 January 2006
AFCEA 2006
San Diego, CA

24-16 January 2006
Defending America/SpaceComm 2006 Symposium
Colorado Springs, CO

31 January – 2 February 2006
Strategic and Tactical Missile Systems Conference
Monterey, CA

DoD MODELING AND SIMULATION CONFERENCE, MAY 1-5, 2006, WYNDHAM BALTIMORE – INNER HARBOR

The Department of Defense (DoD) M&S Conference is the initial conference that will bring together government and military executives, strategic planners, and senior technical managers to enable DoD M&S community to develop a common view of the state of M&S practice, expose members to the broader M&S community needs (shortfalls, issues, and challenges), and examine M&S gaps associated with policies, procedures, and practices within DoD. The conference also serves as an important forum for discussing and coordinating future plans, goals, and programs within DoD M&S community.

This conference will be held in conjunction with the following forums: Army Simulation Modeling for Acquisition, Requirements and Training (SMART) Conference, Air Force

M&S Conference, and Navy Modeling and Simulation Office Technical Interchange Meeting.

The conference is divided into two phases: (1) the Joint perspective which will include an assessment of the M&S State of the Union in addition to focused discussions on cross-cutting issues and (2) Component-specific M&S agendas.

The program will include presentations by Senior Government leaders as well as panels on programs and initiatives in M&S.

For more information, visit the NTSA Web-site at: http://www.trainingsystems.org/events/index.cfm

NOMINATION PERIOD FOR DoD M&S AWARDS EXTENDED UNTIL JAN. 13

The nomination period for the annual Department of Defense (DoD) Modeling and Simulation (M&S) Awards opened Oct. 7. The submission date has been extended until 5:00pm, January 13, 2006.

Awards will be presented in five categories for accomplishments during calendar year 2005. A winner –- individual, team or organization –- will be selected in each category. The first four categories consist of the M&S functional areas –- *acquisition, analysis, test and evaluation, and training*. The fifth category, a cross-functional area, considers those broader endeavors that impact two or more of the functional areas.

All units, organizational elements and individuals –- both civilian employees and active duty service members –- of the DoD Components that are involved with the development and/or use of M&S are eligible.

The awards program was initiated by the DMSO in 1998 on behalf of the Under Secretary of Defense for Acquisition, Technology and Logistics to: enhance M&S awareness throughout DoD, and recognize excellence, innovation, and achievement in advancing the “state of the art” of M&S and/or in contributing to interoperability and reuse in support of DoD M&S objectives.

This includes, but is not limited to, the development of standards and architectures; techniques and tools; synthetic environments; and new military applications.

The National Training Systems Association (NTSA) sponsors a corresponding set of awards for industry, academia and non-DoD government practitioners in support of DoD M&S. For more information visit: http://www.trainingsystems.org/

ARMY RELEASES “EVERY SOLDIER A SENSOR” TRAINING TOOL

(ORLANDO, Fl) - The Army Deputy Chief of Staff for Intelligence released the "Every Soldier a Sensor" Simulation today Army-wide. The Self Directed Learning Internet Module, known as SLIM ES3, is a computer-based simulation designed to increase Soldiers’ battlefield situational awareness.

"The current objective for SLIM ES3 effort is to produce a spiral software release that will be available via Army Knowledge Online based on Soldiers lessons learned from OIF/OEF," said Maj. Raymond Compton, Director of Military Operations at the U.S. Army Research, Development and Engineering Command Simulation and Training Technology Training Center. "The purpose is to ensure the effort remains relevant to training supporting Soldiers in tasks related to 'Every Soldier is a Sensor'."

The U.S. Army Research, Development and Engineering Command’s Sgt. 1st Class Paul Ray Smith Simulation and Training Technology Center as well as The Institute for Creative Technologies developed a game based module to train Soldiers on the concept "Every Soldier is a Sensor". The ES3 simulation uses state-of-the-art instructional development strategies to support a Soldier's need to master a variety of competencies of "Every Soldier is a Sensor" and to apply them in unique situations.

The simulation immerses Soldiers into scenario-driven events to teach and evaluate a Soldier's knowledge regarding the essential tactics, techniques and procedures required to successfully perform as a sensor on the ground. The Soldier navigates urban terrain populated with civilians, security personnel, NGOs, insurgents, and Improvised Explosive Devices seeking to detect threats of varying significance while attempting appropriate interaction with those they encounter.

For complete article visit:
http://www.peostri.army.mil/PAO/pressrelease/SLIM_ES3.jsp

NASA FLYING WING MODEL SOARS IN HISTORIC WIND TUNNEL

Ask anyone what an airplane looks like and most will tell you a tube with wings. NASA researchers are trying to expand that image. They're testing a design for a flying wing, called a blended wing body.

Technicians have installed a five-percent scale model of a blended wing body in the Langley Full-Scale Tunnel at NASA's Langley Research Center in Hampton, Va. During tests in the tunnel's huge 30X60 foot test section, pilots "flew" the 12-foot wingspan, 80-pound model. It stayed aloft in the tunnel's wind stream constrained only by a tether cable. The flying wing is the biggest model ever free flight tested in the Full Scale Tunnel.

"We want to understand the edge of the envelope flight characteristics of the blended wing body," said Dan Vicroy, blended wing body flight dynamics principal investigator. "We're comfortable with the flight characteristics of conventional tube with wings airplanes, but we don't have much experience with flying wings."

Researchers say a blended wing body could be useful as a multi-role aircraft for the military, including functioning as a tanker, cargo or transport plane.

Much testing needs to be done before the flying wing could be safely introduced as a transport aircraft. The blended wing body doesn't have a conventional airplane tail, used to control pitch (up and down) and yaw (side to side) motions. Instead it uses a combination of control surfaces on the trailing edge of the wing to maneuver the airplane. The free flight tests will help assess the best combination of control surfaces and limits. For complete article visit:
http://www.nasa.gov/home/hqnews/2005/nov/HQ_05405_wing_model.html

I/ITSEC 2005

I/ITSEC 2005 brought industry, government and the Armed Services together to discuss important questions and to exhibit solutions. "I/ITSEC is the most important, most significant training systems conference and exhibition in the world," observes Rear Admiral Frederick Lewis, U.S. Navy (Ret.), President National Training Systems Association.

Total attendance for the conference and exhibition was expected to be in excess of 16,000, and included representatives from over 40 countries.

This year the theme of the conference brought the Services together and focused on joint training and fighting the Global War on terrorism.

The conclusion of I/ITSEC 2005 accompanied a shift of lead Services responsibilities from the U.S. Army to the U.S. Navy (USN) / U.S. Marine Corps (USMC) and the adoption of a new theme for I/ITSEC 2006: "Training the 21st Century Joint Force…Mission Focused to Achieve Warfighting Excellence."

For more information visit:
http://www.iitsec.org/

TERRAIN SURFACE CODES FOR AN ALL-SEASON, OFF-ROAD RIDE MOTION SIMULATOR

Researchers at the U.S. Army Engineer Research and Development Center (ERDC) and U.S. Army Tank-Automotive Research, Development and Engineering Center

(TARDEC) are collaborating to improve Army ground vehicle modeling and simulation capabilities. This work, part of the U.S. Army Science and Technology Objective (STO) IV.GC.2003.01, "High-Fidelity Ground Platform and Terrain Modeling (HGTM)," is centered on the TARDEC virtual evaluation suite, which includes their ride motion simulator. One of the goals of this effort is to embed ERDC vehicle–terrain interaction algorithms within the simulator software, such that they provide the forces between vehicle components (tires or tracks) and the terrain. These algorithms require associated terrain surface conditions, which are functions of weather, topography, and terrain attributes.

This research produced a paper that describes the approach taken to relate terrain mechanics properties with the terrain database in sufficient detail to support the TARDEC Ride Motion Simulator and, additionally, allow consistency when interacting with Semi-Automated Force (SAF) vehicles within the OneSAF Testbed Baseline (OTB), OneSAF Objective System (OOS), and potentially other simulators or simulations.

A method of linking seasonal terrain conditions to an OpenFlight database, without the need to recompile the terrain database, is presented. The seasonal terrain data support high-resolution, real-time terrain interaction of a vehicle ride motion simulator. Implementation of terrain-related attributes to support both the simulator and SAF models is illustrated in the paper. To view this paper visit: http://www.msiac.dmso.mil/NewsDigest/

TOUR HIGHLIGHTS ADVANCES IN MODELING AND SIMULATION

(SUFFOLK, Va. - November 8, 2005) - Harnessing and applying a constantly changing field like modeling and simulation to help revolutionize joint warfighting requires a constant collaborative effort between the command leading the transformation of the U.S. military and its various academic, business, alliance and interagency partners.

That was the message delivered at U.S. Joint Forces Command (USJFCOM) during the second day of a Virginia Economic Development Partnership Modeling and Simulation Awareness Tour organized for members of the media to have an up-close and personal introduction to the various M&S elements and players in Virginia and the Hampton Roads area, in general.

According to command officials, the event, like many recent M&S events, was an opportunity to showcase the command, its partners, and advances in M&S that have occurred in Hampton Roads.

During the tour, command officials said USJFCOM will participate in two important upcoming events, which will incorporate new and emerging M&S systems including: the Interservice/Industry Training, Simulation and Education Conference (I/ITSEC) in Orlando, Fla., in December, and Multinational Experiment 4 (MNE4), to be held at USJFCOM's Suffolk facilities and at sites around the world in early 2006.

For complete article visit: http://www.jfcom.mil/newslink/storyarchive/2005/pa110805a.htm

CONGRESSIONAL MODELING AND SIMULATION CAUCUS PANEL AT I/ITSEC PRAISES M&S GROWTH

Five members of the U.S. Congressional Modeling and Simulation Caucus unanimously praised the capabilities and potential of the M&S industry during their I/ITSEC 2005 panel discussion.

The Congressional Modeling and Simulation Caucus was established in February 2005 by Congressman Randy Forbes, who attended I/ITSEC with four other caucus members: Congresswoman Thelma Drake; Congressman Tom Feeney; Congressman Ric Keller; and Congressman Bobby Scott.

Praising the caucus participants for their "real commitment to Modeling and Simulation," Forbes said, "This industry is an

exciting industry. It is a dynamic industry. But it is just in its infancy. The future of this industry is just being born".

He explained that part of the reason he established the Caucus was to educate across the U.S. and Congress the importance of M&S technologies. "Modeling and Simulation is not a zero sum game," he added. "It has a strength from the synergy it gets from working together." He added, "this is an exciting industry that will continue to explode as long as we do what's necessary to put the building blocks in place for you to do what you need to do."

The positive opinion of the industry was echoed by the other Caucus participants prior to the group accepting questions and thoughts from I/ITSEC attendees.

MULTINATIONAL MODEL

In war rooms, laboratories, research and development facilities and simulation theaters, massive computer power is being blended with visualization graphics so battle planners and industry engineers can see ahead of the game.
In one example of a breakthrough in the use of modeling and simulation (M&S) technology, a large international experiment is being planned for February 2006 that will explore and demonstrate effects-based operations concepts.

Among the pioneering aspects of Multinational Experiment 4 (MNE 4) is the way it will bring together participants from around the world in a real-time, distributed exercise where everyone is equal partner and explorer. Australia, Canada, Finland, France, Germany, Sweden, the United Kingdom, the United States and NATO will test their effects-based operations concepts and see how they work together in a stability operations situation. By integrating international simulation tools on a scale never-before tried, participants hope to get a clearer picture of how using combined diplomatic, economic, military and information effects-based efforts might influence the behavior of adversaries.

The experiment, scheduled for Feb. 20 to Mar. 17, 2006, will be set in Afghanistan and participants will be distributed across the globe, taking part in the real-time, simulation from their home countries. It will be the culmination of three milestone events that have paved the way to make MNE 4 possible technologically.

For complete article from TSJ (Training and Simulation Journal) On-line visit: http://www.tsjonline.com/story.php?F=1077348